

Zones of refuge: Resisting conquest in the northern Philippine highlands through environmental practice

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ABSTRACT

Environmental practice in Ifugao, Philippines is considered to have anchored the successful resistance against Spanish conquest in the highlands of the Philippine Cordillera. The social practice associated with wet-rice production in the region is argued to promote community solidarity and cohesion, past and present. By looking at the wet-rice cultivation and its associated rituals, this paper contends that *habitus* played a major role in the perpetuation and preservation of Ifugao culture during the Spanish colonial period in the Philippines. Recent dating of the Ifugao rice terraces suggests that the agricultural marvels were constructed as late as ca. 400 years ago. Previously thought to be at least 2000 years old, the recent findings of the Ifugao Archaeological Project (IAP) show that landscape modification for terraced wet-rice cultivation started at ca. 1650 CE. The archaeological record implies that economic intensification and political consolidation occurred in Ifugao soon after the appearance of the Spanish empire in the northern Philippines (ca. 1575 CE). The foremost indication of this shift was the adoption of wet-rice agriculture in the highlands, zones that served as refuge for local populations. I argue that the subsistence shift was precipitated by political pressures and was then followed by political and economic consolidation. The imperial resistance was expressed through wet-rice agriculture; it also facilitated political integration. Using paleoethnobotanical, faunal, and artifactual datasets, this paper documents the process that allowed the Ifugao to resist conquest.

1. Introduction

The archaeological dating of the Ifugao Rice Terraces, northern Philippines, previously assumed to be at least 2000 years old, strongly suggests that the agricultural marvels were constructed soon after contact with the Spanish at ca. 1650 CE. The lateness of the shift to wet-rice cultivation indicates that populations from the lowland valleys moved into the interior of the mountain range to avoid Spanish cooptation. The movement would have been a conscious effort to resist conquest, which initiated other cultural processes that allowed the Ifugao to resist Spanish colonialism. As such, this paper links the late inception of wet-rice cultivation (and rice terracing) in the region as a response of populations coalescing in the mountain interiors to avoid direct Spanish control in the lowlands. Utilizing proxy indicators of identity maintenance, rituals for social solidarity, and crystallization of elite control of valued resources, this article forefronts indigenous strategies meant to withstand attempts by the Spanish to conquer them.

As exemplified above, resistance to conquest and colonialism is expressed in various forms, but generally, the more overt forms, like armed struggle, are the narratives that make it to history books. In this work, I forefront an example where the fight against subjugation

transpired as a consequence of the structuring mechanism of a unique environmental practice that allowed for the expression of cultural perpetuation and conservation in the face of a more powerful entity. Focusing on the Ifugao of the northern Philippines (Fig. 1), I provide a case study where the successful resistance to Iberian colonialism was played out through activities that solidified ethnic identity and catalyzed the consolidation of political and economic resources. The Ifugao inhabit the north central Cordillera in Luzon, Philippines. The term Ifugao also refers to the province.

Studies on Iberian colonialism in the region primarily focused on archival documents, which expectedly had the more conspicuous lowland ethnolinguistic groups in the colonies as focal points (e.g. Barretto-Tesoro and Hernandez, 2017; Blair and Robertson, 1903; Bjork, 1998; Skowronek, 1997, 1998). Discussions on resistance and identity have also been centered on lowland rebellions and the ability of Muslim groups to withstand Spanish attempts at conquest; other successful resistance movements, such as that of the Cordillerans, were relegated to footnotes, mostly attributing the failure of the Spanish conquest in the highland regions to marginal environments and difficult terrain, similar to Scott's (2009) concepts of "escape agriculture" (p. 23) and "friction of terrain and friction of distance" (pp. 40–43). This work, thus, focuses

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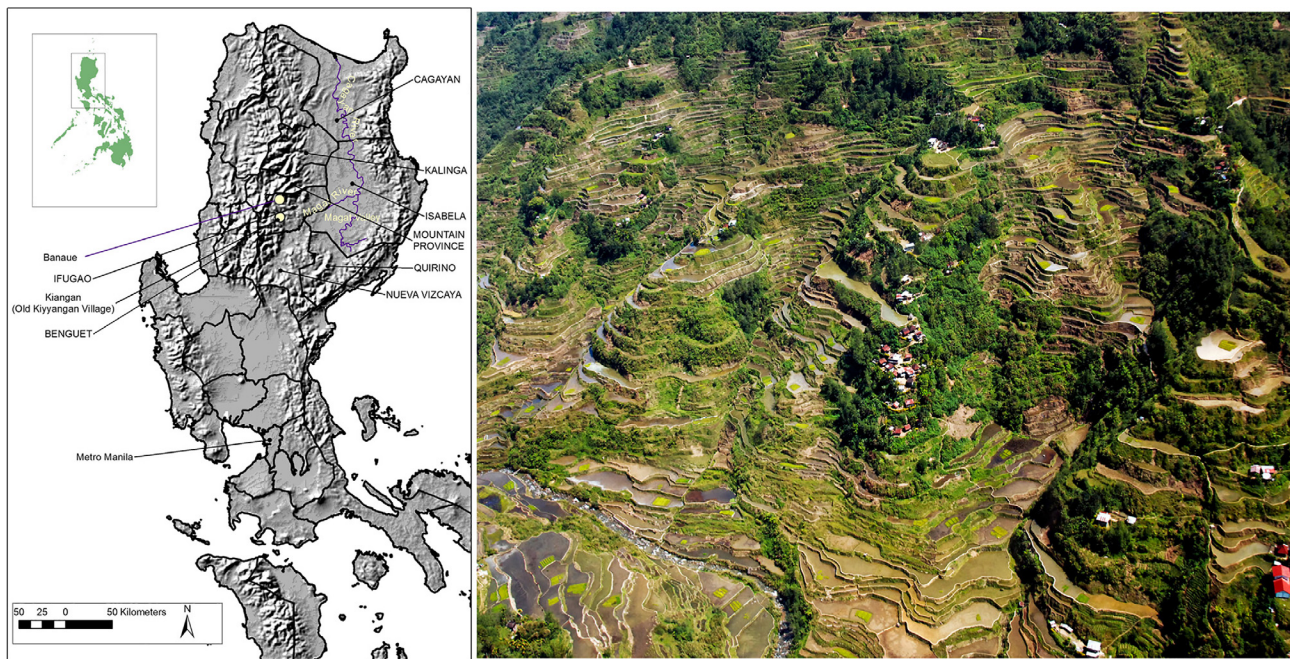


Fig. 1. The Northern Philippines. Cordillera and Cagayan Valley Provinces are labeled. Inset: Banaue terraces.

on non-Muslim Philippines that the Spanish were never able to change.

In this paper, I contend that the Ifugao environmental practice during the initial periods of Spanish conquest of northern Luzon counters the arguments that people moved to marginal places that were not valued by the colonizers and shifted to less productive agricultural practices to avoid colonial attention. In contrast to upland agriculture in other areas of Southeast Asia where highland groups tend to practice swiddening, the Ifugao shifted to wet-rice cultivation soon after contact with the Spanish even though wet-rice was valued and taxed by the colonial administration.

Keesing (1962) was the first to propose that the arrival of the Spanish in northern Luzon precipitated migration to the Cordillera highlands and encouraged the construction and expansion of rice terrace systems in the region. This assertion is supported by early population estimates in lowland Northeastern Luzon, particularly, Fray Juan Campo's list of 100 villages in Dupax Nueva Vizcaya in 1739 CE. When Fray Francisco Antolin surveyed the region in 1789 CE, only 40 villages remained (Antolin, 1789). Furthermore, the original Monforte expedition of 1660 CE listed 50 villages located higher on the Cordillera that still exist in the twentieth century (Scott, 1974: 175). Lambrecht's (1967) lexical analysis of the Ifugao romantic tales, the *Hudhud*, also suggests that the ecological setting of the stories is in a lowland region that has considerable flat areas, which the highlands lack.

Recent archaeological findings in the region support Keesing's observation that the emergence of wet-rice cultivation in the region coincided with the arrival of the Spanish in the northern Philippines (Acabado, 2009, 2010, 2015, 2017). This subsistence shift was accompanied by dramatic increases in ritual fauna (Lapeña and Acabado, 2017) and extra-local prestige goods (Yakal, 2017). These changes appear to have been a direct response of the Ifugao to the arrival of Spanish conquistadors in the northern Philippines in the late 1500s.

I hypothesize that the lowland groups who moved up to the mountains were ethnically Ifugao who joined Ifugao small-scale settlements that were already living in the interior of the Cordillera. The latter were taro producers, but due to the influx of Ifugao lowlanders, who presumably brought with them the technology to cultivate wet-rice, there was both demographic and social pressure to shift to wet-rice production.

I argue that the ability of the Ifugao to shift their subsistence base

from wet-taro to wet-rice ushered in the needed political consolidation that allowed them to successfully fend off multiple attempts by the Spanish to place them under colonial control. They also established their settlements on areas with easily defended passes and narrow canyons. These shifts, including wet-rice cultivation, created a new Ifugao identity that united the taro and wet-rice producers.

The highland location of the Ifugao and the rugged terrain were not a hindrance for conquest, as there were other Philippine groups whose settlements were comparable to those of Ifugao who were subjugated (i.e. the Lumads, various indigenous groups in Mindanao [Paredes, 2013]). I further argue that processes observed in Ifugao question the dominant narrative that describes the highlands as refuge against a more powerful entity. Elsewhere, I suggested that this process of hinterland consolidation could be investigated through pericolonial archaeology (Acabado, 2017: 3), an investigation of groups who were not directly colonized by a foreign force, but shows parallel culture change with groups who were directly colonized.

This landscape change is attributed to a subsistence shift that was fueled by the intensifying ritual feasting that aimed to promote cohesion in the increasing Ifugao population. These social practices fit the concept that Bourdieu (1977, 1990) calls *habitus*. The concept is premised on the contention that people will replicate and intensify aspects of their culture to perpetuate social solidarity. *Habitus* is composed of active dispositions and inclinations that guide individuals to understand their world and respond to stimuli provided by their social environment (Bourdieu, 1990: 53). It is projected into the organization of the real world through practices, and it is absorbed by actors acting in the world that is organized that way, thus becoming a set of mental dispositions of social actors. Among the Ifugao, these dispositions are manifested materially in the landscape and their terraces. The repetitiveness of rice rituals as well as terrace construction, maintenance, and the agricultural practice itself, transforms the abstract structure into a concrete symbol. The connection of practice and *habitus* is acted out in the landscape; thus, rice production in the terraces and its associated rituals became the structuring mechanism for Ifugao solidarity. As a structuring mechanism, people act unconsciously to satisfy the norms.

However, these unconscious acts came to play as active and conscious decisions in their resistance to Spanish domination, as an expression of affirming group identity. This paper, thus, looks at structure

(*habitus*) (Bourdieu, 1977) and agency (Giddens, 1984) to explain how the subsistence shift became a fulcrum to resistance and how the terraced rice fields became the expressions of the Ifugao *habitus*. The concept of *habitus* is utilized in this case study to argue for cultural persistence and survival of the Ifugao amidst the political and economic pressures exerted by the Spanish because the fundamental underpinning of the concept is the goal of identity maintenance. In addition, practice theory complements *habitus* as it provides a reflection of *why people do what they do* (Ortner, 1984). In this case, the shift to wet-rice cultivation and the repetitive aspect of agricultural activities and its associated social practice reproduce Ifugao *habitus* and agency.

Rice and rice production is replete with ritual feasting that facilitates the reinforcement of Ifugao social organization (Acabado, 2013; Conklin, 1980). The repetitiveness of these activities solidifies Ifugao cohesiveness and provides a guide to how individuals react to challenges, particularly, power shifts. I maintain that continuity of the Ifugao rice terraces and the structure that allowed the system to flourish were founded on the Ifugao's ability to situate themselves into differential power relationships. Our ethnographic work in the last five years (Acabado and Martin, 2015, 2016) supports the contention that people make sensible choices, particularly on the maintenance of Ifugao identity centered on rice; even with the pressures of the market economy, contemporary customary rice production in Ifugao largely remains an activity driven by prestige rather than by market forces.

The successful resistance of the Ifugao and other highland groups against the Spanish is the product of a long-term endemic process that started as early as 1350 CE. Macrobotanical and microbotanical data from the Old Kiyangan Village suggest extensive deforestation and ecological change evident of taro cultivation (Peterson and Acabado, 2015). This is in contrast with lowland records wherein widespread agriculture was only employed under Spanish rule (Blair and Robertson, 1903). The highlanders' shift to wet-rice cultivation, on the other hand, occurred soon after contact with the Spanish at ca. 1650 CE. This timing provides the backdrop for cultural perpetuation and preservation in the face of a colonial power.

2. *Habitus*, Practice, and agency in archaeology

Archaeological investigations in the last three decades have highlighted the role of practice theory (Giddens, 1984; Ortner, 1984) in bridging the processual and post-processual divide in archaeology. This paradigm has actively utilized the perspectives of agency theory and *habitus*. Pauketat (2001) calls this shift historical processualism in his review of practice theory in archaeology. In addition, a number of archaeologists (e.g. Atalay and Hastorf, 2006; Dietler and Herbich, 1998; Dornan, 2002; Hegmon, 1998; Erickson, 2001; Joyce and Lopiraro, 2005; Knapp and Ashmore, 1999; Knapp and van Dommelen, 2008) have also provided a synthesis and application of *habitus* and agency in archaeology.

I do not intend to rehash their work; rather, I provide a brief overview of *habitus* and agency as utilized by archaeologists and how they relate to resistance. The focal point of Bourdieu's (1977) concept of *habitus* is the continuous enactment and representation of traditions, that either reinforce traditions or alter them. A primary concern for archaeologists is the understanding of causation and motivation for the cultural changes observed in the archaeological record. Pauketat (2001: 79–80) suggests that understanding such processes requires separating strategy from intentionality. Doing so takes away teleological explanations about human behavior (Pauketat, 2001:80). It also recognizes that human dispositions are founded on what Bourdieu (1977) calls *doxa*, commonsensical and/or unconscious forms of knowledge that affect how individuals view their respective roles in the community.

A number of archaeological studies have focused on this aspect of human behavior where cultural identity is expressed in the production and consumption of material culture (e.g. Dietler and Herbich, 1998;

Eckert, 2008; Skibo and Schiffer, 2008; Yaeger, 2000). The basic premise is that practical knowledge is embodied in daily practice and that material culture, particularly ceramics, expresses these practices. In this paper, I operationalize *habitus* in a non-ceramic case study.

However, as mentioned above, *habitus* is abstract and forms the unconscious social practices of cultures. Practice theory links the concept of *habitus* into an active and materially-supported approach in archaeological investigations since the former emphasizes how individuals react to challenges, particularly, power shifts. As such, practice theory gives primacy to individualism but in relation to the system. As Ortner explains it, practice theory helps to understand *anything people do* (1984: 149). This paper approaches the issue at hand that social agents do behave with explicit intentions and devises strategies to achieve those intents. However, these acts can be constrained by the *doxa*.

To perpetuate and preserve culture in the face of colonialism, people act in ways that are consistent with maintaining their cultural identity. There are a variety of options available to colonized populations along a continuum of behaviors ranging from accommodation at one extreme to resistance at the other. As such, they either overtly resist conquest through armed confrontation or accede to the might of the conquering polity but covertly maintain their cultural identity through the continuation of foodways, burial practices, trading and exchange relationships, etc. Both approaches provide an avenue for cultures to maintain a certain degree of cultural survival in colonial contexts.

In Ifugao society, the cultural perpetuation and preservation have been anchored on the importance placed on rice cultivation and its associated rituals. As argued in this paper, rice cultivation and its rituals are *habitus* and manifested in the terraced rice fields. Though rice cultivation is a mundane and daily activity, it becomes a massive and politically-charged ritual during prestige feasts. As the succeeding sections will show, the Ifugao rice fields encompass the spiritual, economic, and political realms. As a *habitus*, the seemingly mundane activities associated with rice cultivation reproduce the structures that organize Ifugao society, which allowed them to resist subjugation.

2.1. Colonial resistance in archaeology

Research on struggles against hegemonic entities demonstrates that such resistance occurs in situations of power inequality (e.g. Borck and Simpson, 2017; Fowles, 2010; McGuire and Paynter, 1991; Sassaman, 2001). The archaeological study of colonial resistance, on the other hand, took hold when archaeologists began to distinguish the symbolic nature of ostensibly utilitarian artifacts (Ferguson, 1991; Orser, 1991). These artifacts are argued to promote group cohesion and maintenance and/or reproduction of ethnic identity (Loren, 2000; van Dommelen, 1997: 309), as seen from ethnographic studies of resistance. Scott (1985, 1990, 2009), in his studies in Southeast Asia, has articulated the various forms of resistance, which are mostly invisible in the archaeological record, especially covert types of resistance. However, he provided the opportunity for archaeologists to seek indicators of resistance in the archaeological record. For instance, Orser (1994: 39; Orser and Funari, 2001) argued that slave-made pottery and tiny metal fist amulets could have contained muted messages of everyday resistance that are not readily interpretable as signs of resistance. Similarly, Ruppel et al. (2003) looked at hidden ritual spaces built beneath house floors by African slaves. Spielmann et al. (2006: 622) have also contended that the dramatic changes in the decoration of two ceramic wares produced by potters in the Salinas Region of New Mexico were expressions of resistance to Spanish missionary efforts to eliminate Pueblo religious practices.

In Indonesia, Lape (2001) has documented how Banda peoples resisted Dutch policies through their food habits, although accounts describe that the Bandanese collaborated with the Dutch colonizers. His work emphasizes the complex nature of colonization process, which is sometimes overlooked by historians, particularly the ability of

indigenous peoples to maintain religious identity, continue long-term trading partnerships, and sustain local foodways (Lape, 2000a). Lape (2000b, 2001) argues that this resistance to hegemonic powers was at play during Islamization and then replayed during the Dutch conquest.

In Ifugao, the agricultural practice during the colonial period produced social practices that reinforced community solidarity and a strong ethnic identity. Contrary to dominant historical narratives (Keesing, 1962; Lambrecht, 1967), the move into the interior of the mountain was not just an escape to avoid the Spanish Crown since the Ifugao shifted to wet-rice cultivation, a crop that was valued and taxed by the Spanish. In Mainland Southeast Asia, Scott (2009) has argued that montane groups were able to free themselves from powerful kingdoms by adopting upland agriculture, which he calls “escape agriculture” (p. 23), a type of farming that was not pursued by rice kingdoms. However, these movements can happen when groups reject everyday control, while simultaneously acknowledging some form of control (i.e. taxes) in order to maintain their autonomy.

Scott (2009) also considered the concepts of “friction of terrain” and “friction of distance” as overt expressions of resistance by groups in mainland Southeast Asia who survived the expansion of rice-producing kingdoms. J. Scott argued that moving to the hinterlands was a conscious decision to prevent subjugation. Attempts to further place the highland groups under the power of kingdoms were thought to be inconsequential as they live in marginal areas and were not competing with the more powerful polities.

In the Philippines, the adoption of wet-rice as the primary crop in the Cordillera seem to be a counter-intuitive act for the Ifugao as the shift would have invited more Spanish attacks since the Spanish valued and taxed wet-rice. Rather, I consider the emergence of wet-rice cultivation in Ifugao as an indication of the arrival of rice-cultivating peoples from the lowlands, since new groups are inclined to reproduce the habitual aspects of their culture in a new environment.

The Ifugao *habitus*, manifested in wet-rice cultivation, initially aimed to perpetuate Ifugao culture in the midst of the Spanish aims to subjugate the region. The unintended consequence of the wet-rice cultivation was political consolidation as wet-rice cultivation in Ifugao was prestige-based. The consolidation allowed the Ifugao to successfully resist Spanish conquest.

The Spanish were successful in colonizing most of the Philippines because of their strategy to fracture local lifeways, particularly, the enforcement of the policies of *encomienda* and the *reducción*. The Ifugao agricultural practice and prestige economy, however, provided the venue for an organized response to military attacks. Resistance, in this work, is expressed as the agentive ability to opt-out of the larger colonial system, even when the community makes a decision to grow cash crops.

Moving away is an expression of overt resistance against a colonizing power. The continuity of indigenous agricultural systems, particularly upland farming systems, also signify the fight against domination as subjugated groups are forced to intensify production for taxation purposes. In the Philippines, the oral history of the Suludnon of Panay Island mentions moving into the interior of the island so that they are able to govern themselves and they are able to continue their mobile swiddening lifestyle (Gowey, n.d.).

In the northern Philippines, the Ifugao successfully resisted multiple attempts by the Spanish to conquer their region. Although the Ifugao landscape fits the friction of terrain and friction of distance description, the Ifugao shifted their subsistence base to wet-rice production, which would have invited more attacks by the Spanish since wet-rice is a valued tax product in colonial Philippines. As argued elsewhere (Acabado, 2017), the shift to wet-rice cultivation and the expansion of the rice terraces in the highlands of Ifugao allowed them to intensify social differentiation, which facilitated armed resistance against the Spanish. Wet-rice cultivation requires a more complex social organization than those who practice swiddening or flood recession agriculture (Bray, 1994; Greenland, 1997), thus the Ifugao possess both the

demographic attribute and social organization required to militarily resist Spanish attacks. As an overt case of resistance, I view the agricultural practice of the Ifugao as the major contributing factor to the failure of the Spanish to subdue the Ifugao.

3. Ethnohistory and landscape

Ferdinand Magellan, sailing under the flag of the Spanish Empire, dropped anchor along the coast of the Central Philippines in March 19, 1521. His voyage to the Philippines was spurred by the objective of discovering a western route to the Spice Islands, which are located south of the Philippine archipelago. Although Magellan planted the Spanish flag in the Philippines in 1521 CE, it was not until 1565 CE that Miguel Lopez de Legaspi formally established a colonial government in present-day Cebu City.

The establishment of the Spanish colonial government in the Philippines was a consequence of the discovery of a safe route between the Philippine and Mexico, the so-called *torno viaje*, which facilitated the famous Manila-Acapulco Trade. The Philippines was an afterthought in the conquest of the East Indies as the archipelago was thought to be an expensive possession, but the islands offered the potential springboard to trade with and to colonize China (Skowronek, 1998).

Legaspi moved the administration capital from Cebu to Manila in 1571 CE because of news about gold mines in Luzon (Cordillera and Bicol). Within six months of his capture of Manila, his grandson, Juan de Salcedo, led an expedition to explore the west coastal region of northern Luzon which was the emporium for the Igorot gold (Canilao, 2018; Scott, 1974:9). The Ifugao region did not have gold, their Benguet neighbors did, but the Spanish wanted to subdue all Cordillera groups so that they could have free reign over the Igorot gold.

The colonization of most of the Philippines was swift, even if the Spanish population (and armed soldiers) never numbered more than 2000. Mawson (2016: 393–394) argues that the speed to which the islands were subjugated can be credited to how the Spanish used the pre-Hispanic method of warfare to gain the trust of the elite and subsequently integrating them (elites) into the military. When the Spanish moved to Luzon and explored the Cordilleras, their soldiers were mostly composed of indigenous men from the Manila area.

The Spanish had heard about the Ifugao and other highland groups as early as 1575 CE, largely due to the famed Cordillera gold. Spanish, and later German, explorers provided the earliest historical reports of the agricultural systems of Cordillera populations (Scott, 1974). Surprisingly, it was not until 1801 CE that a description of wet-rice terracing appeared in Spanish documents. This glaring absence in any early colonial documents motivated Keesing (1962) to argue that the terraces were much younger than what pioneer anthropologists (Barton, 1919; Beyer, 1955) had proposed.

Until recently, archaeological work in Ifugao was limited to Robert Maher's series of visits. Maher conducted the first archaeological project in the province, later resulting to the initial archaeological publications regarding the region (1973, 1984, 1985, 1989). Sites at two localities were excavated, one in Banaue in Central Ifugao and the other in the Burnay District of Southeast Ifugao. These sites provided radiocarbon evidence for site occupation, but not necessarily rice terrace construction, up to 2950 ± 250 ^{14}C yr BP and 1340 ± 375 ^{14}C yr BP, respectively, well before Spanish impacts in the region after CE (1571 CE).

Subsequent archaeological investigations of Ifugao Province were carried out relatively recently, in Banaue (Acabado, 2009, 2010) and at the Old Kiyangan Village site (OKV), in Kiangnan (Acabado, 2012a, 2012b, 2013, 2015, 2017). OKV is thought to have been the first village settled by the Tuwali-Ifugao, an Ifugao ethnolinguistic group that later moved in the current town of Kiangnan, about 4 km from the archaeological site.

The report detailed in this study is based on the OKV site

investigations of the Ifugao Archaeological Project (IAP). This site was selected for archaeological investigations because the village is prominent in the oral traditions regarding the Tawali-Ifugao origin and considered to be the place the Ifugaos first settled. A rich set of archaeological, faunal, microbotanical, and macrobotanical data was obtained from this site during the field seasons of 2012, 2013, 2015, and 2016.

These archaeological findings further support the contention that the wet-rice cultivation in the region is a fairly recent development. What we know from the OKV is that the village subsisted on taro before 1650 CE, and a shift to wet-rice cultivation occurred soon after the appearance of the Spanish in the adjacent lowlands (Acabado, 2012a; Horrocks et al., 2018). Archaeological data also indicate that inhabitants of OKV had access to extra-local wealth (imported glass, stone beads, and trade ware ceramics) before 1650 CE. Soon after contact with the Spanish, there was a dramatic increase in these imported goods accompanied by an upsurge in the demand for ritual fauna (domesticated pigs and water buffalo, also known as carabao) (Acabado, 2017; Lapeña and Acabado, 2017; Yakal, 2017).

Currently, the Ifugao subsistence pattern is characterized by a complementary system of irrigated rice-terraced fields, swiddens, and agroforestry. As an agroecological system, it is guided by integrated patterns of mixed farming that includes the management of private forests, swidden cultivation of sweet potatoes, pond-field rice farming, inter-cropping of many secondary domesticates (i.e. sweet potatoes, potatoes, cabbage, and other cash crops), and the raising of pigs, chickens, and other livestock (Conklin, 1980: 36). Though rice terraces appear to dominate the Ifugao landscape, these fields are part of a system that includes managed forests and swidden fields.

Araral, 2013 approaches the Ifugao case as an example of a socio-ecological system (SES) that appears to be resilient to colonial and market pressures. Although his discussion is premised on the 2000-year old model of the origin of the Ifugao terracing system, his contention of the strong ecological relationship between Ifugao practices and the landscape parallels the arguments put forth in this paper.

The terraces are mainly used for rice cultivation, but wet-taro is also cultivated and harvested during the fallow periods of the rice cycle. The terracing is characterized by earthen bunds built along the edges of retaining walls constructed of either stone or mud (Fig. 2). Gaps in the walls are part of the irrigation system.

The primary consideration when building these terraces on the mountain slopes is a sufficient water source. Slope inclination, elevation, or aspect are secondary (Acabado, 2012a). The irrigation source of a particular terrace system is usually located a few kilometers upstream. This ensures sufficient water pressure to supply the fields downstream. Earthen irrigation channels wind through the mountainous topography, replenishing topsoil and nutrients lost from the bunded fields. Although the rice terraces dominate the Ifugao landscape, the main source of carbohydrate in Ifugao, historically, is swidden-field cultivation of sweet potato (*Ipomoea batatas*) (Conklin, 1980). Swidden fields are commonly located in areas higher in elevation and with no viable available water source.

Elsewhere, I argued that rice production and consumption forms the nexus of modern Ifugao social relationships (Acabado, 2013). As an example, the customary wealth indicator in Ifugao is based on the rice-land holdings of an individual and the person's ability to sponsor feasts, which requires the distribution of rice and consumption of rice wine. Elites (owners of rice land) are called the *Kadangyan*, while the poor are called the *Nawotwot* (which literally means, root-crop eater). Community members who own rice lands but are unable to sponsor feasts are called *Tagu* or *Natumok*. The *Tagu* are usually relatives of the *Kadangyan*. Ranking in Ifugao is non-hereditary, although an individual born to an elite family would have the resources needed to reach the *Kadangyan* rank. Property, especially land holdings and prestige goods, is inherited by the first-born (primogeniture) regardless of gender. Ethnographic (Barton, 1919, 1922, 1930, 1938; Lambrecht, 1967) and

ethnohistoric (Antolin, 1789) accounts have described this ranking in Ifugao society.

3.1. Rice, prestige, and rituals

Ethnographies of traditional societies in Southeast Asia have documented the prestige associated with the production and consumption of rice (i.e. Conklin, 1980; Janowski, 1996, 1998; Shepherd and McWilliam, 2011; Sherman, 1990). As a prestige food, rice is required in feasts and rituals, which becomes a symbolic expression of the ritual feast's sponsor's wealth and status. Indeed, feasts have been credited as a medium for the self-aggrandizement of ambitious individuals (Adams, 2004; Dietler and Hayden, 2001; Hayden, 2001; Junker, 2001) and enforced inequality (Halstead, 2012: 12; Hayden, 2001, 2003: 35), but also as source of community solidarity (Smith, 2014). More importantly, feasts and rituals, particularly prestige feasts provide a place for communities to strengthen community harmony, especially in the context of resisting a colonial power. Feasts allow elites to illustrate their wealth and their ability to lead.

Among traditional societies, feasts and rituals are intertwined, with feasts always associated with rituals (but not the other way around). Hayden (2014: 4) has stressed the importance of investigating these events because they are recognizable in the archaeological record and minimally, they provide insights into the social and political dynamics of societies and context to the emergence of prestige economies. These processes have been observed among societies who have recently adopted rice agriculture. For instance, Barton (2012) and Janowski (1996) described the process among the Kelabit of Borneo, where the introduction of wet-rice not only intensified feasts and rituals, but also drastically changed the sociopolitical organization of the Kelabit. Harrison (1949: 142) mentions that rice was a late introduction in the interior of Borneo and remained a minor crop until recently, replacing taro and other root crops as starchy staples. Barton (2012: 3–5) has argued that this transition is “illogical,” as rice is not a suitable crop in the rainforests of Borneo. The adoption of rice in the region, however, has stimulated the emergence of a prestige economy among highland Borneo groups, including the Kelabit. These groups actively convert excess rice into social ‘capital’, or perhaps social ‘potential’ might be a better phrase, through the purchase or trade of prestige items such as brass gongs or Chinese jars (Barton, 2012: 7).

Janowski (1996) has also observed that wet-rice transformed the organization of Kelabit communal labor for the construction of ceremonial ditches, irrigation ditches, and the erection of celebratory stone monuments because of the newfound ability for families to feed people at feasts. As such, these events create and enhance social bonds and create situations of reciprocal obligation (Hayden, 2003: 35). Similarly, the Ifugao have developed intricate and complex rice rituals that define ethnic identity and community cohesion. Among the Ifugao, rituals and ritual feasting signal every stage of the rice cycle – reinforcing the prestige economy and solidifying the status of the ritual sponsor. The succeeding section provides a narrative of Ifugao rice and prestige rituals.

3.2. Ifugao rice and prestige rituals

The widespread rice rituals and associated feasts among the Ifugao do not only serve as community cohesive events, they also promote the social reproduction strategy among Ifugao communities. Particularly, the prestige basis of Ifugao economies is reproduced in each of the rituals, as the ritual sponsor displays his/her ability to provide valued ritual fauna and rice wine for the community. These rituals also become the venue where elites show imported heirloom goods (e.g. stoneware and porcelain vessels and glass and stone beads).

Among the Ifugao, the core of their religion is embodied in the *Baki*, a sacrificial ritual performed by a *Mumbaki* (Ifugao religious specialist) on occasions important to the Ifugao people: to mark the different



Fig. 2. Ifugao terrace ecology; a typical Ifugao terrace system includes privately-owned woodlot, communal forest, swidden fields, a house terrace, irrigation channels, and rice terraces (image courtesy of A. Burgos).

stages of life and to mark the different stages of rice culture (Dulawan, 1985). The *Baki* are numerous rites and prayers that comprise the main body of myths. The myths tell stories of gods and goddesses, related supernatural beings, ancestors and the forces of nature (Dumia, 1979). In the performance of the rituals, the *mumbaki* invokes the ancestors, and gods and goddesses numbering over a thousand, residing in all possible corners of the Ifugao universe. The overwhelming number of divinities of the Ifugaos was aptly described by Barton (1930) as astonishing as the Ifugao terracing. From the supreme deities of the Skyworld (*Kabunian*), the Underworld (*Nunda'ul*), the Easterworld (*Lagud*) and the Westernworld (*Daya*), several other groups of divinities inhabit the spaces in-between and beyond, even mingling with mortals in the Earthworld (*Pugaw*). This part of the cosmos, *Pugaw*, is where humans have settled and from which they called themselves, *iPugaw*, the prefix *i* denoting the place of origin. *Ipugaw* later on became Ifugao, people of the earth, to distinguish themselves from inhabitants of the other parts of the cosmos, like the *Ikabunian* and *Ilagud*.

The performance of the rice rituals exemplify the reproduction of Ifugao social relationships as ancestral spirits of the sponsoring couple are chanted to connect them to the living. Ancestors are invoked so they may join their living kin in petitioning the gods. This ritual significance of ancestral spirits makes the Ifugao expert genealogists. Knowledge of pedigree is of paramount importance to the Ifugao. Some *Mumbaki* are able to provide genealogies for ten or eleven generations, which include

descendants in both lines of important ancestors. In the conduct of ritual feasts that relatives are required to attend, a functional knowledge of one's lineage determines whom to invite (Dumia, 1979) and to whom to distribute the meat of sacrificed animals. Aside from being mere ritual sympathizers, deceased blood relatives, if properly propitiated, can ensure good harvests, increase in livestock, and large, healthy families (Conklin, 1980).

The Ifugao observe elaborate ritual offerings for every single phase of the rice farming cycle, from the sowing of consecrated seeds meticulously selected by highly skilled elderly women to the harvesting of the ripened grains. The rice rituals follow the natural cycle of the *Tinawon*, rice varieties believed by the Ifugaos to have been handed down by gods of the Skyworld. These agricultural rituals are sponsored by the *Tumonak*, agricultural ritual leaders whose landholdings may not be the widest in the area, but are consecrated by deities to be the ceremonial fields for a particular agricultural district (*boble*) (Acabado and Martin, 2016). The *Tumonak* have been elevated to the prestige-rank of the *Kadangyan*. The *Kadangyan* are families or individuals who performed lavish prestige rites to earn a place among the elite of Ifugao society. Usually, there is one *Tumonak* in every district, who may be male or female, but with one or two alternates who may take his or her place in case he or she fails in his or her duties. The most important role of the *Tumonak* is to maintain the synchronicity of labor in the terraces and at the same time maintain the rice rituals (Acabado, 2013: 163).



Fig. 3. The Ifugao Agricultural Calendar has been adjusted to correspond to the Gregorian Calendar and specific rituals complement particular rice farming activities. Inner circle represents the four season of the Ifugao agricultural calendar (Lawang: season of plenty marriages and prestige rites are conducted during this period); Kiwang: planting season (rainy season); Ti-algo: season of the sun; “hungry time” since it is the growing period of rice; Ahi-ani: harvest season; the most sacred, a period of fasting and abstinence from vegetables and anything that are obtained from water. The 3rd spoke from the center represents the Gregorian Calendar, while the 4th spoke represents the Ifugao months. The 5th outer spoke shows labor stages associated with wet-rice production. The outermost circle provides a list of rituals associated with each stage of wet-rice production. In the order of performance within the agricultural year, the following are the rice rituals of the Ifugao: 1. Bringing out of the first rice bundles from the previous harvest (Lukya); 2. Kadangyan welfare ritual (Ubaya) 3. Ritual to appease spirits as stored seeds are laid in seedbeds (Lokan di binong-o); 4. Ritual for sowing of rice seeds (Panal); 5. Transplanting of rice seedlings (Bolnat); 6. Paad is done when rice grains are about to mature. Ritual that bind the Ifugaos to a promise of abstaining from eating legumes, fish and other aquatic food until the performance of the Kahiwi ritual (Paad); 7. Ritual to petition the gods to make the plants bear abundantly (Bodad); 8. Ritual to ask the gods to make the rice grow abundant; after the kulpi and to open the weeding season. Riceponds are rid of grass and other aquatic plants. Dead or stunted rice plants are removed and replaced (Hagophop); 9. Ritual for protection of rice from pests (Tagtag/Dog-al); 10. Ritual to protect rice from destructive burds and insects (Tikom); 11. Feast after the transplanting of seedlings (Kulpi); 12. Ritual offered to the covetous gods done on the eve of the harvest day to ask this group of gods not to covet the rice harvest (Ngili); 13. Harvest ritual (Kolating/Ani); 13. Ritual related to the filling of the granary with rice bundles (Tuldag); 14. Thanksgiving ritual for the year’s harvest (Bakle) (Danglot/Bakle); 15. Ritual for the lifting of prohibited food and gathering of certain vegetables, fish and other aquatic food from the rice fields imposed during the harvest season (Kahiwi/Punnuk). *Tungoh: ceremonial field holiday where no one is allowed to work in the fields (ceremonial idleness); ** Hongot: Ritual conducted simultaneous with the kolating if the rice field is to be passed on to a newly married child of the sponsoring couple. Calendar developed with the guidance of Marlon Martin.

Fig. 3 enumerates the basic rituals associated with rice life cycle. Most are performed in the rice granary or in the house of the sponsoring couple. Sacrifices of chickens, pigs, and rice wine, including the standard areca nut and betel leaves, are given to the agricultural gods mainly to ask for protection from pests, rice diseases and for general welfare of the village.

The rice rituals listed in Fig. 3 were performed consistently by all Ifugao agricultural districts until the large-scale assimilation of the Ifugao into the larger Philippine society in the last 50 years (Acabado and Martin, 2015). Currently, only two agricultural districts are known

to still practice most of these rituals. Rice rituals require that the ritual feast sponsors undergo a prestige ritual (*Kadangyan*) and that the *To-munak* (village ritual head) has at least acquired the rank of *uya’uy*. There are five *Kadangyan* prestige rituals (*lotob*, *ballitong*, *uya’uy*, *balog*, and *hagabi* – in order of increasing prestige). A *Tagu* or *Natumok*, or other commoner who owns rice fields cannot sponsor rice rituals.

The repetitiveness of rice farming activities and associated rituals would have stimulated the reinforcement of Ifugao structures that revolve around the production, distribution, and consumption of rice. Since archaeological evidence points to the later adoption of rice

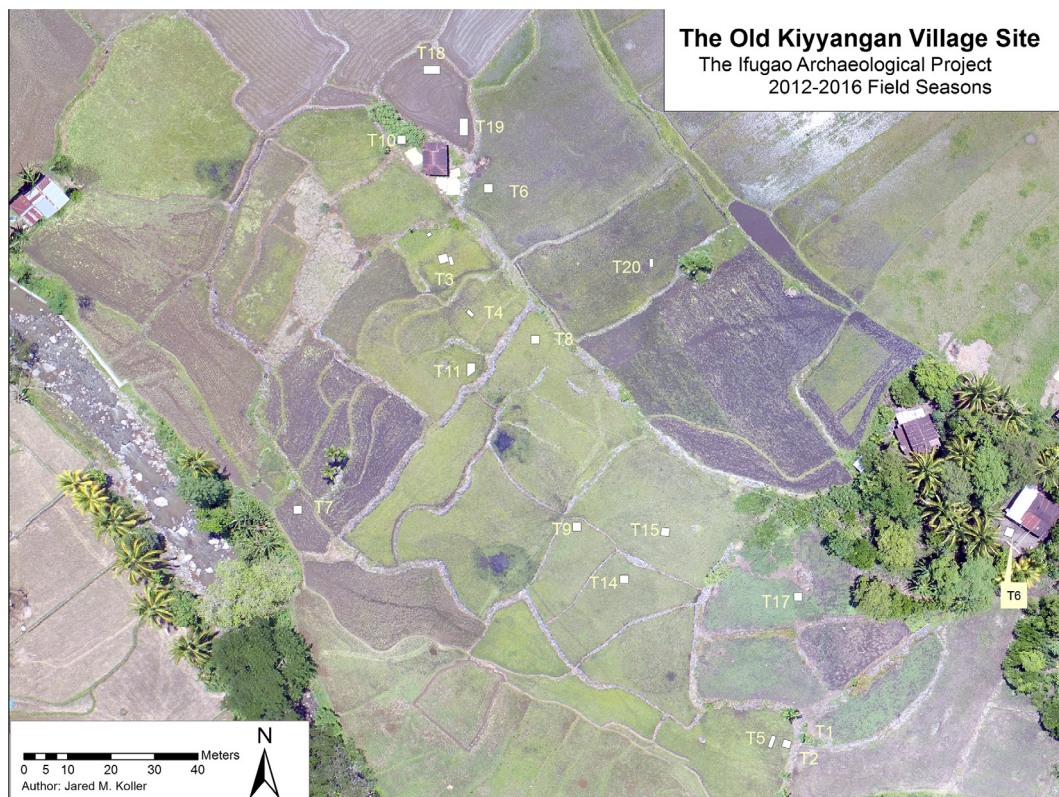


Fig. 4. The Old Kiyangan Village Site. Excavation units from 2012 to 2016 field seasons.

agriculture in the region, these activities would have greatly influenced Ifugao social organization. Findings from the Old Kiyangan Village Site provide the empirical support for these assertions.

4. OKV and the IFUGAO archaeological project

Archaeological, spatial, and ethnographic data from multiple sites in Ifugao (e.g. Banaue, Hapao, Batad, and Nagacadan) suggest that wet-rice cultivation coincided with the appearance of the Spanish in the northern Philippines. The shallow timeframe of the construction and subsequent expansion of the rice terracing tradition in the region provide stimulating research questions, especially since rice cultivation requires a specific form of social organization. Data from the Old Kiyangan Village (Fig. 4), an abandoned settlement site, offer indications to how the shift to wet-rice cultivation prompted increases in social differentiation and the strengthening of Ifugao identity.

The first mention of OKV in Spanish documents described it as a settlement with 186 houses and 4000 inhabitants, with an additional 2000 people distributed in three smaller villages nearby, as reported by Fray Molano in 1801 (Antolin, 1789). This number is significant as the population of Manila when the Spanish initially encountered the community, which would later become the site of the Walled City of Intramuros, was only 2000 (Newson, 2009: 118).

Excavation in OKV was done due to the descendant community's request to investigate the putative origin of the Ifugao. OKV is prominent in all versions of the Ifugao origin myth as the first village the progenitor Ifugao couple built and where the Ifugao received knowledge of wet-rice cultivation from the spirits. It is noteworthy that according to Ifugao oral history, taro was the main staple the Ifugaos, cultivated prior to the constructions of the irrigated rice terraces.

The site is currently used as a rice field and none of the Ifugao elders could remember when it was last inhabited. An American-period document (1898–1946) (Record Historico, 1911) mentions the Village of Otoboban (which is another name of the Kiyangan Village) as being

located elsewhere until 1869 (p. 2). The town of Kiangnan today is about four kilometers from the Old Kiyangan Site. The Old Kiyangan settlement would have been abandoned between 1832 (the sacking of the village by Col. Galvey) (Jenista, 1987) and 1869 for still unknown reasons (Record Historico, 1911). Oral history mentions poisoned water, which could be a reference to an outbreak of cholera in the late 1800s (Newson, 2009).

In the last four seasons, the IAP has opened twenty excavation units with depths ranging between 1.5 and 2 m. Ten shovel test probes were also used to determine the NS and E extent of the village. Based on spatial information obtained from the excavations, Trenches 3–20 were within the area of the village that is dated between 800 and 400 years ago, while Trenches 1, 2, 7, 16, and 17 appear to be on areas that were extended later when the village was expanding (see Fig. 4).

Datasets recovered by the IAP strongly indicate that the arrival of the Spanish in the region coincided with the expansion of the village and the observed shift to rice agriculture. Excavation units provided evidence of three occupational layers and three distinct pottery assemblages: the lowest layer (Layer III) had finds exclusively of earthenware jars; cooking and earthenware water jars, and trade ware ceramics were found in the second occupational layer (Layer II); and cooking jars were excavated in the upper (Layer I) layer (Acabado, 2017: 17–19). Work in the OKV also unearthed locally-produced and imported beads, a crocodile tooth, imported metal adornments, and infant burials. These findings attest to the active participation of the Ifugao community in pre-colonial and colonial interactions in the Philippines.

5. Dating methods: agricultural terraces

In the past decade, a growing number of archaeologists have proposed various dating methods to establish construction sequences of agricultural terraces. These methods include using buried soils to obtain absolute dates for ancient agrarian terraces (Ballesteros Arias et al.,

2006; Ballesteros-Arias and Criado-Boado, 2009; Bevan et al., 2013; Castillo et al., 2013; Jiang et al., 2014; Puy and Balbo, 2013; Puy et al., 2016) working under the assumption that the dates obtained from bulk soils reflect the latest organic inputs. This method has been critiqued because farming activities and post-depositional disturbance will provide unreliable dates (Korobov and Borisov, 2013). This method is also subject to the transport of organic materials, particularly phytoliths, moving in a column because of water seepage (Fishkish et al., 2010; Madella and Lancellotti, 2012). Another suggestion is to utilize OSL profiling to address the limitations of bulk soil-based radiocarbon dates (Kinnaird et al., 2017). OSL dating has been applied to establish dates for terraces in Jordan, Israel, Greece, and Spain (Beckers et al., 2013; Bevan et al., 2013; Davidovich et al., 2012; Gadot et al., 2016).

Unfortunately, both OSL and various ^{14}C dating techniques can only yield dates that are related to a specific point in the sediment profile (Kinnaird et al., 2017: 69). Moreover, dates from these methods might not relate to the initial construction itself but to later maintenance or other taphonomic process. Thus, a combination of data sources could presumably strengthen a dating method for establishing initial construction and succeeding expansion of a terrace system.

In the Ifugao case, their rice terraces are currently in use. This aspect makes dating complicated as the constant tilling of the topsoil and repair and maintenance of terrace walls could be a source of intermixing of organic materials. However, as a *living cultural landscape*, we are provided with ethnographic information on how terraces are constructed and maintained. Knowledge of construction technology therefore provides invaluable information to contextualize samples obtained for radiocarbon determinations.

5.1. Archaeological findings

The IAP was launched to finally resolve the debates regarding the antiquity of the Ifugao rice terraces (Acabado, 2009). The research project also focused on issues of water management and social organization (Acabado, 2012a, 2012b, 2013). Initial findings of the early years of the IAP have redirected the focus of the research program.

The presently accepted 2000-year old model (Barton, 1919; Beyer, 1955) is not based on even “a single shovelful of archaeological evidence”, using Maher's (1973: 40) words, but it entered the national consciousness because of how history is taught in Philippine basic education. Bodner (1986), working in another region in the Cordillera (Bontoc), has also strongly argued for the later inception (after 1600) of wet-rice cultivation in the region – because of the absence of any evidence related to wet-rice cultivation.

The absence of evidence is not evidence of absence, but evidence that will support the 2000-year old origin of the Ifugao terraces is completely absent from five major sites (Old Kiangyan Village, Hapao, Nagacadan, Batad, and Banaue), which were excavated by the IAP. As such, in this case, the absence of evidence is evidence of absence.

Elsewhere, I presented a methodology that incorporates multiple datasets, which includes archaeobotanical (Horrocks et al., 2018), ethnohistorical, ethnographic, spatial, Bayesian modeling (Acabado, 2009), and other archaeological information, to establish terrace construction sequence and development over time.

The Bayesian modeling provided the initial robust dataset that suggested that the terraces could have been constructed much later than previously thought. This was strengthened by excavations within the terraces of Hapao, Batad, Nagacadan, and from Old Kiyangan Village, a settlement. The IAP, thus, has datasets from both rice fields and a settlement. The findings of the project provide archaeological and ethnohistoric information that supports a short history model for the inception of the agricultural monuments (Table 1 illustrates the debates on the antiquity of the terraces). As discussed in previous sections, the Ifugao rice terraces were constructed soon after the arrival of the Spanish. Bulk soil, charred residue, microbotanical and macrobotanical datasets recovered from three trenches, and pollen, phytolith, and

starch analyses of sherd residues from these trenches suggest taro (*Colocasia esculenta*) was cultivated in the OKV as early as 1000 years BP.

Wood charcoal is abundant in the whole sequence of the site, but a definite spike is observed in Layer 2 (dated to ca. 1600s). This suggests either increased demand for forest product (wood) or deforestation. There is also a complete absence of rice and rice-related weeds in any of the soil and charred residue samples in levels earlier than 1650. Moreover, this observed landscape change was accompanied by the dramatic increase in imported goods, upsurge in the remains of ritual animals, and shift to wet-rice cultivation. This dataset strongly suggests a later shift to wet-rice cultivation, a consequence of lowland rice farmers joining the OKV settlement. The succeeding sections provide other details on the archaeological findings in the OKV site.

5.2. Radiocarbon dates

A total of nineteen AMS dates have been obtained from the OKV site. The establishment of the village is placed at ca. 900 BP (Table 2). This is supported by recovered earthenware ceramics from the lower layers and the dating of recovered human remains. It is important to note that bulk soil dates correspond with AMS dates obtained from wood charcoal, faunal and charred residue, and human skeletal remains. Fig. 5 shows a composite stratigraphy with the layer AMS dates.

5.3. Ceramics: earthenware pots, stoneware, and porcelain

The rapid expansion and possible population growth at the start of the colonial period in the Old Kiyangan Village is also supported by a sudden increase in utilitarian earthenware and trade ware ceramic sherds recovered from the site (Fig. 6). This change in frequency accompanies a statistically significant change in the types of animals present (Table 3) ca. 1600 CE, right when the Spanish initially ventured into the northern Philippines. Elsewhere (Acabado, 2017: 17–20), I showed that the increase in utilitarian earthenware sherds appears to be linked with an increase in deer consumption. Likewise, the increase in tradeware ceramics (porcelain and stoneware) was concurrent with the increase in carabao remains. In addition, parallels also appear between trade ware ceramics and the consumption of major fauna (pigs, carabao, and deer).

Preliminary analysis of earthenware pottery recovered from the OKV displayed a high degree of variation. This variation indicates manufacturing at the household level and earthenwares were most likely produced as needed. The forms and use-wear of the pottery indicate domestic use. Additionally, sand temper was uniform throughout the occupation layers.

Associated with the appearance of wet-rice and village expansion was the spike in the distribution of trade ware ceramics (stoneware and porcelain) in the OKV, all of which were imported from elsewhere in Asia (Figs. 6 and 7). Foreign traders brought these items to the Philippines as early as the 10th century (Patanne, 1996, 1972: 267), but these materials were not introduced into the highlands until two centuries later. Blue-and-white vessels (Ming Dynasty ceramics, ca-14th to 17th century) dominate the imported ceramics during the Spanish colonial period. Access to these goods in OKV would have been limited, with only five of the 17 excavation units showing significant numbers of these materials. The low count of the trade ware ceramics in the archaeological record of Old Kiyangan Village (compared to earthenware ceramics) could be attributed to the high cost, prestige, and value attached to these materials (Lebar, 1975: 81). Present-day wealthy Ifugao families still possess stoneware and porcelain jars as heirloom goods.

The low numbers of trade ware ceramics in Layer 2 could be a product of intrusion from mixing, but it is highly likely that these items were being traded in the region before the Spanish colonization. Contact with the lowlands and the upstream movement of imported

Table 1
Proposed dates on the antiquity of the Ifugao rice terraces.

Author	Age estimation	Evidence
Barton (1919) and Beyer (1955)	2000–3000 YBP	Estimated how long it would have taken to construct the elaborate terrace systems which fill valley after valley of the Ifugao region
Keesing (1962) and Dozier (1966)	< 300 YBP	Movements to upper elevation of Cordillera peoples were associated with Spanish pressure
Lambrecht (1967)	< 300 YBP	Used lexical and linguistic evidence by analyzing Ifugao romantic tales (<i>Hudhud</i>); observed short duration of terrace building and concluded a recent origin of the terraces
Maher (1973: 52–55)	205 ± 100 YBP 735 ± 105 YBP	Radiocarbon dates from a pond field and midden
Acabado (2009: 811, 2012b, 2017)	1650 CE	Bayesian modeling of radiocarbon dates obtained from the Bocos terrace system, Banaue, Ifugao; paleoethnobotanical information from soils recovered from the Old Kiyangan Village and Hapao Terrace Cluster

Table 2
AMS radiocarbon dates from Old Kiyangan Village, using the IntCal09 and IntCal13 databases (Talma and Vogel, 1993; Heaton et al., 2009; Reimer et al., 2009). (Dates appeared in Acabado et al., 2017.)

Depth (cm)	Lab Number	Material/Trench	¹⁴ C BP	Cal. BP (2 σ)	Cal. CE (2 σ)
30–40	Beta-356307	Organic sediment/8	190 ± 30	260–200	1640–post-1950
50–60	UCIAMS-183276	Wood charcoal/ <i>Pinus insularis</i> /14	415 ± 15	510–469	1440–1480
55–73	Beta-394185	Bone collagen/8	410 ± 30	530–470	1405–1445
60–70	UCIAMS-183272	Wood charcoal/ <i>Pinus insularis</i> /14	345 ± 15	477–317	1470–1633
65–70	Beta-356306	Organic sediment/8	620 ± 30	680–620	1280–1390
80–90	UCIAMS-183273	Wood charcoal/ <i>Pinus insularis</i> /14	570 ± 15	634–537	1315–1415
80–90	Beta-394182	Bone collagen/8	600 ± 30	730–670	1265–1380
90–100	CIAMS-183274	Wood charcoal/ <i>Pinus insularis</i> /14	665 ± 15	669–564	1280–1385
90–100	Beta-421036	Unidentified Wood Charcoal/14	660 ± 30	690–630	1280–1390
90–100	Beta-421037	Potsherd residue/14	590 ± 30	610–550	1300–1415
90–100	D-AMS 003446	Organic sediment/9	861 ± 25	899–700	1052–1250
100–110	D-AMS 003447	Organic sediment/10 (fill)	1252 ± 37	1279–1075	672–876
100–110	D-AMS 003448	Organic sediment/10 (dark midden soil)	292 ± 27	456–291	1495–1660
100–110	Beta-356305	Organic sediment/8	720 ± 30	810–750	1220–1280
110–120	D-AMS 003445	Organic sediment/9	672 ± 28	676–561	1274–1390
110–120	Beta-32953	Organic sediment/3	780 ± 30	741–669	1160–1260
120–144	Beta-394184	Bone collagen/9	800 ± 30	767–675	1045–1220
130–140	Beta-329552	Organic sediment/3	770 ± 30	734–668	1050–1240
150–160	Beta-329551	Organic sediment/3	1000 ± 30	967–799	900–1020

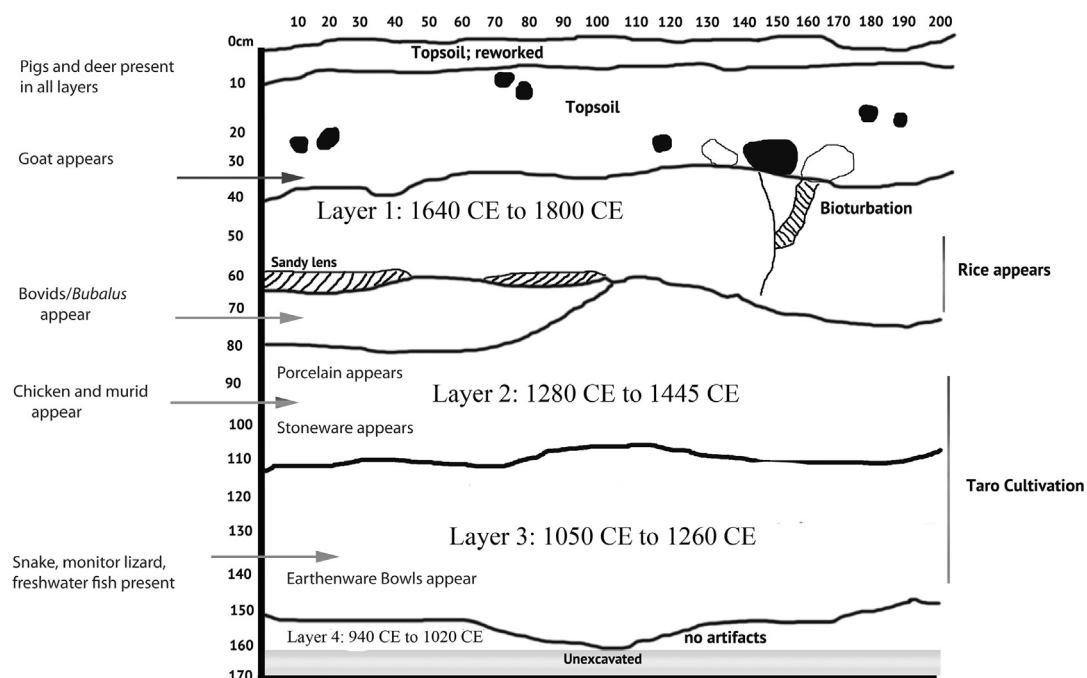


Fig. 5. Composite of OKV stratigraphy from with AMS date ranges.

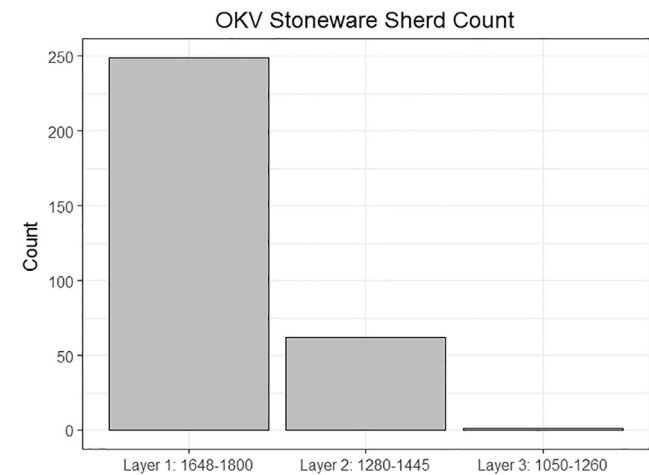


Fig. 6. Stoneware sherd count from the Old Kiyangan Village. All dates presented are in CE.

goods are supported by the presence of exotic glass beads dated to ca. 1350 CE. Nonetheless, there was a drastic increase in the presence of these goods after the 1600s.

5.4. Faunal remains

Another remarkable change observed in the OKV archaeological record is the increase in pig and carabao consumption (Table 3). Amano (2013) identified eight major taxa from the faunal remains recovered in 2012. His analysis focused on Trench 3, which represented 78.3 percent of all animal bone fragments recovered from the site (n = 1416) in 2012. Out of the 1102 bone fragments, Amano identified a total of 251 specimens belonging to eight major taxa, with deer, pig, and carabao remains dominating the samples. The rest of the bones are too fragmentary for identification. The analysis also indicated that the Philippine deer (*Rusa marianna*) was the primary source of protein in all stratigraphic units. Though pig remains were also found in all stratigraphic units, those unearthed in the lowest layer were scarce.

The prevalence of deer remains in contrast to the low number of pig remains in lower layers was surprising. Even when the OKV inhabitants shifted to wet-rice cultivation and there was an increase in pig remains, deer consumption remained stable. I argue that this distribution correlates with ethnographic accounts that domesticated pigs in Ifugao were only meant for feasts and rituals, not for regular consumption. Lapeña and Acabado (2017) provide morphological evidence for the spike in pig demand in the OKV. Faunal finds in Ifugao parallel those of early agricultural Southeast Asian societies where domesticated pigs are posited to have played a bigger and more important role in feasting and ritual than sustenance (Hayden, 2001, Amano et al., 2013). In Ifugao, domesticated pigs are only slaughtered during ritual performances: prestige rites, healing, and sorcery rites, weddings, peace pacts, death rites, rice rituals. Only when the market economy was introduced to Ifugao land at the start of the 1900s did they slaughter pigs for non-ceremonial consumption. Not even the wealthiest *Kadangyans* will kill a

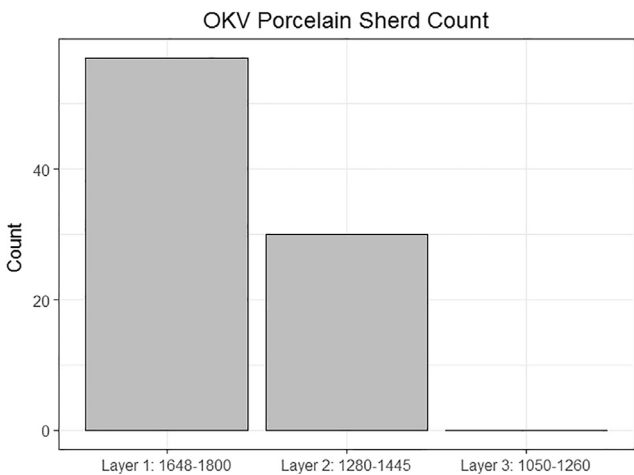


Fig. 7. Porcelain sherd count from the Old Kiyangan Village. All dates presented are in CE.

pig (or a chicken for that matter) without sending its soul off to the Spirit World. Doing so would be an utter waste of soul stuff for the spirits and for the Ifugao.

There is also an increase in carabao remains, which began to emerge in the archaeological record after contact with the Spanish. As opposed to other areas in Southeast Asia (and the lowland Philippines), carabaos are not used as traction animals for farming in Ifugao. Instead of labor purposes, the carabao is treated as a prestige animal only butchered during rituals associated with the elites (*Kadangyan*).

5.5. Pollens, phytoliths, and starch

Analyses of pollen, phytoliths, and starch samples from the OKV provide unequivocal data that wet-rice cultivation and the subsequent expansion of terrace systems in Ifugao occurred soon after Spanish contact. Horrocks (2012, 2013) analyzed multiple microbotanical samples from OKV, where he identified numerous well-preserved phytoliths, with grass leaf phytoliths dominating all assemblages (Table 4). It is significant to note that we are able to argue for the presence of wet-rice through some types of grass phytoliths.

Two starch samples were also identified in the Ifugao samples (Horrocks et al., 2018). The first type, consistent with the corm of taro (an aroid), was found in two potsherd samples. The morphology of the other type encompasses starch storage organs of several Philippine starch crops, namely three taro species (*Alocasia macrorrhiza*, *Amorphophallus paeoniifolius* and *Cyrtosperma merkusii*), arrowroot (*Tacca leontopetaloides*), and breadfruit (*Artocarpus altilis*). Starch grains of these species are difficult to differentiate. Because both types of starch were present in very small amounts, this evidence should be treated cautiously.

Moreover, organic residue analysis of the charred sherds recovered from the site add evidence to the absence of wet-rice (cultivation, processing, and cooking) in Old Kiyangan Village prior to Spanish colonization (ca. 1565 CE) of the Philippines (Eusebio et al., 2015). The

Table 3
Distribution of taxa across the stratigraphic units of Trench 3 (NISP) and the frequency change chi square statistic of the faunal remains recovered from the Old Kiyangan Village. Values: $\chi^2 = 16.722$; df: 2; p-value: 0.0002. The result is significant at $p < .05$. (From Acabado, 2017:16.)

Layer	Deer			Prestige Fauna (Pig and Carabao)			All Other Fauna			Total
	NISP	Expected Frequency	X ²	NISP	Expected Frequency	X ²	NISP	Expected Frequency	X ²	
1 (CalCE 1648–1800)	98	94.25	0.15	70	64.87	0.41	37	45.84	1.71	205
2 (CalCE 1280–1445)	11	14.72	0.94	5	10.13	2.60	16	7.16	10.93	32
3 (CalCE 1050–1260)	(3)			(2)			(9)			Not included in the analyses
Total	109			75			53			237

Table 4

Pollen, phytolith, and starch evidence for taro, rice, and palms from OKV (+ = present; O = absent). All charred residue analysis from cooking vessels did not provide any evidence for rice preparation and consumption at OKV. The predominance of palm could be from *Areca* nut for betel nut chewing. Data obtained from Eusebio et al. (2015) and Horrocks et al. (2018).

Depth (cm)	Taro	Rice	Palm
0–10	O	+	+
10–20	O	+	+
20–30	O	+	+
30–40	O	+	+
40–50	O	+	+
50–60	+	+	+
60–70	+	+	+
70–80	+	+	+
80–90	+	O	+
90–100	+	O	+
100–110	+	O	+
110–120	+	O	+
120–130	O	O	+
130–140	O	O	+
140–150	O	O	+

residue analysis suggests that OKV villagers were cultivating, processing, and cooking other starchy sources, such as taro, yam, breadfruit, arrowroot, palms, and an unidentified C₄ crop (Eusebio et al., 2015: 15).

The large amounts of grass pollen and fern spores in the plant microfossil samples reflect forest clearance in the region, first appearing in the lowermost layer of Trench 8, dated from soon after 810–750 cal BP (Horrocks, 2013). Forest clearance seems to have intensified soon after 1650 CE, which coincided with the increase in *Oryza* phytoliths. Alan Farahani's preliminary macrobotanical analyses show an uptick in the distribution of wood charcoal (*Pinus kesiya*) during this period.

6. Discussion

The failure of the Spanish to permanently place the Ifugao under colonial rule is not just based on the “frictions” proposed by Scott (2009); the successful resistance was founded on the ability of the Ifugao to focus their energy into political and economic consolidation through the structuring power of wet-rice farming. As the archaeology of the OKV presents, there was a rapid population increase in the settlement soon after contact with the Spanish. This increase was accompanied by the emergence of rice as the primary crop, as well as upsurges in prestige fauna and extra-local wealth, which suggests an intensification of ritual feasting (Fig. 8). I interpret these changes as the expression of Ifugao *habitus*, which strengthened soon after contact with

the Spanish.

The Ifugao landscape provides an avenue to investigate the relationships between space, place, and interactions between human agents. More than a cultural wonder, the terraces are an arena filled with social, economic, political, and religious symbolism. Archaeologists have explored these issues where human agency and structure are intertwined in landscape patterns (Atkin and Rykwert, 2005; Lawrence and Low, 1990; Low and Lawrence, 2003; Moore, 2005). As a classic example of an anthropogenic landscape, the terraces and related cultural features (managed forests, swidden fields, irrigation canals) provided the avenue for highland peoples to consolidate their economic and political resources allowing them to resist conquest.

As mentioned earlier, Bourdieu's (1977) *habitus* provides a heuristic approach to understand the dynamic relationship between individuals, the group, and the structure. This concept is relevant to archaeology since focus on the landscape emphasizes the link between space, time, and the everyday life of peoples. Following Erickson et al. (2009: 205), I argue that “the complex recursive relationship between practice and structure creates the patterns that we recognize in the archaeological record and identify as aspects of long-term traditions; local, regional, and cross-cultural variation; and continuity and change over short and long temporal scales.”

There has been tremendous environmental change in Ifugao, accompanied by cultural change, which coincided with the arrival of the Spanish in the northern Philippines. The change however, started as early as 1350 CE, with the intensification of wet-taro production. It is clear that the Ifugao were imposing their agency into the environment, possibly for increased access to imported goods.

It is during this time period that we observe the introduction of exotic goods that would have fueled the landscape changes in the region. Tradeware ceramics from Southeast Asia and China and glass beads, presumably from China as well, started to slowly trickle into OKV during this period. These foreign goods were limited at first, but once the shift to wet-rice production took place, so did a massive increase in their distributions.

As recent archaeological findings suggest, there is a high level of confidence that the rice terracing tradition in the Cordillera Region of the Philippines is much younger than previously supposed. Findings from multiple sites in Ifugao (Banaue, Hapao, and OKV) have produced datasets that suggest a much later development of wet-rice cultivation. Paleoethnobotanical investigations have so far yielded no evidence for wet-rice cultivation that predates the 1600s: no weeds associated with wet-rice ecology, starch residue from cooking pots are from tubers, and no rice phytoliths in secure contexts were found. in layers earlier than the 1600s.

Wet-rice became the stimulus for environmental and cultural change in Ifugao. Ethnohistoric (Antolin, 1789) and ethnographic (Barton, 1919; Conklin, 1980) accounts, and my own spatial analysis, suggest that although rice terraces dominate the entire Ifugao landscape, the rice produced in the fields is only enough to feed 10% of the population. The motivation to produce rice is based on prestige, rather than subsistence needs. This would have entailed negotiations between individuals and the community, facilitated by rituals and feasts, resulting in the required social integration and organization needed to resist conquest. Wet-rice cultivation in itself requires a social organization drastically different from wet-taro cultivation due to its intensive labor demands (Bray, 1994; Greenland, 1997). As rice cultivation became the center of Ifugao life and the repetitive nature of rice production set in, punctuated by rituals and feasts at every activity, this *habitus* became the force that shaped the daily life of the Ifugao. And as I argue, it became the anchor for the resistance against the Spanish Empire.

Similar to the changes observed among the Kelabit of Borneo (Janowski, 1996; Barton, 2012) and the Samosir Batak of Sumatra (Sherman, 1990), the adoption of wet-rice stimulated sociopolitical change. These political shifts were also associated with the

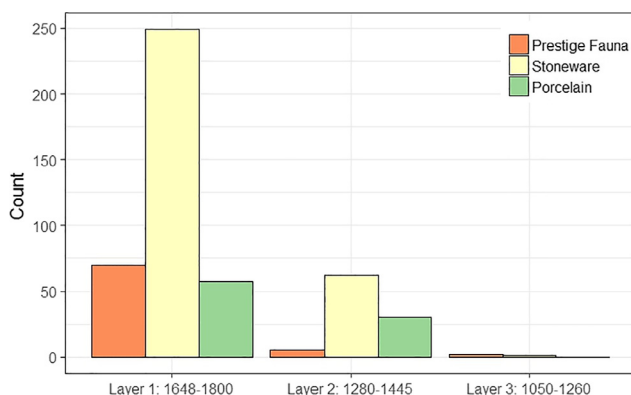


Fig. 8. Frequency distribution of prestige fauna (domestic pigs and carabao) and tradeware ceramics (stoneware and porcelain). All dates presented are in CE.

enroachment of the larger Malaysian and Indonesian societies, respectively, to the hinterlands. But as Janowski (2014) and Sherman (1990) documented, the intensification of rice ritual feasts among these groups appear to be aimed at maintaining their identity and resisting assimilation.

Scott (2009: 195–196) calls highland agriculture a type of “escape agriculture” designed to keep the extractive state “at arm’s length”. Escape agriculture crops, however, are limited to roots and tubers which are known to be less prestigious and of less value. Escape agriculture is also exclusively swiddening in nature (Scott, 2009: 195). Thus, the Ifugao case is different as the expansive rice fields became a magnet for state (in this case, Spanish) appropriation and taxation. Glover and Stone (2018) considered Scott’s (2009) ideas of “friction of terrain” and “friction of distance” as one of the causes for the failure of the Spanish to conquer the Ifugao. Terrain and distance could be explained part of it, but they do not provide the whole story.

In the case of Mindanao, the Lumad groups provide a classic example of J. Scott’s escape agriculture and “frictions”, but the Spanish where still successful in placing them under colonial rule. Paredes (2013) argues that the Lumad opted to be part of the Spanish Empire (Paredes 2013) as a strategy to counter the power of Muslim polities. In Ifugao, there was an active resistance against conquest, so much so that the Spanish sent more than eight punitive attacks to the Kiyangan area (Scott, 1970); almost all ended in disaster except for Col. Galvey’s burning of the OKV in 1832.

6.1. Rice fields as *habitus*

The successful resistance to the colonizing power was predicated on the Ifugao *habitus*, particularly perpetuation of the agricultural practice and its associated rituals. The Ifugao rice fields became the nexus of Ifugao social relationships where individuals situate themselves in the larger social environment. As a heuristic model, the concept provides an avenue to understand shifts in the socio-political organization of the Ifugao that allowed them to resist Spanish conquest. As *habitus*, the Ifugao agricultural fields become the arena where status and power are played out. The Ifugao accord status on the expanse of owned rice land and the ability to sponsor feasts, thus, access to rice becomes the controlling aspect in gaining prestige and prominence. Instead of being assimilated into the world economy brought about by the Spanish colonization, the Ifugao intensified local economic consolidation, which protected them against the larger absorption process.

Although most of the works that utilize the *habitus* concept focus on the role of individuals in history making (i.e. Atalay and Hastorf, 2006; Hegmon, 1998; Hendon, 1996), this article focuses on landscape practices as a structuring mechanism. In this work, I contend that the technological requirement for the construction of the terraced fields is dependent on society’s structure and/or *habitus*; more importantly, communities are involved in the operation of such features. People are active social agents where they affect the reproduction and change in their society (Dietler and Herbich, 1998: 246–247). These processes are especially highlighted on colonialism studies since people respond to unequal power relationships innovatively.

As an example, our Ifugao work focuses on indigenous responses to conquest, which contributes to increasing evidence that indigenous peoples were active agents in the colonial endeavor (e.g., Acabado, 2017; Lightfoot et al., 1998; Lyons and Papadopoulos, 2002; Mullins and Paynter, 2000; Silliman, 2005; Stein, 2002, 2005; Van Buren, 2010). Such investigations have linked the archaeological record to agency, where individuals are seen as capable of making intentional decisions – either strategically to advance their own interests (Blanton et al., 1996; Joyce and Winter, 1996), or through the opportunities offered or constrained by their lived experience (Ortner, 1984; Pauketat, 2000). Agency is a powerful theoretical tool to investigate political relationships, especially within the context of a hierarchical system (Scott, 1990) and power relationships in a colonial setting.

The Spanish Empire conquered most of the Luzon lowlands within three years from contact (1571–1574) and instituted the policy of *reducción*, which forced and/or motivated indigenous peoples to settle in lowland towns where the colonial administration was able to control and tax the population. In Ifugao, particularly OKV, there was rapid growth in villages that coincided with the enforcement of the policy. This was accompanied by a shift from wet-taro farming to wet-rice cultivation, an increase in extra-local wealth, and an upsurge in the demand for ritual animals.

7. Conclusion

Iberian colonialism applied strategies aimed to fracture local life-ways to weaken resistance to conquest and control. This allowed for swift colonization and extraction of resources. As the Spanish Empire reached the apex of its power, the Philippines played an important role in the flow of goods and resources that fed the fetishes of a globalizing economy. These processes shaped our world today, but as this study has shown, resistance to such changes occurred because indigenous groups recognized the effects of colonization to their cultural identity and autonomy.

The impact of the shift to wet-rice cultivation in Ifugao, which coincided with the arrival of the Spanish in northern Luzon, was reflected in political and economic consolidation that ensued soon after groups moved into the interior of the Cordillera. These groups, which are hypothesized as rice-producing Ifugao, integrated with taro cultivating Ifugao groups who were already in the mountains. The continuity of burial and ritual practices from ca. 1550 CE to the colonial period suggests that the groups share a similar cosmology. The new groups, however, brought with them the technology and sociopolitical requirement for wet-rice cultivation. The consolidation effectively resulted in rice becoming central to Ifugao identity (the Ifugao *habitus*), which allowed them to successfully repel multiple attempts by the Spanish to subjugate them.

The exploration of *habitus* and agency, as expressed in the environmental practice in Ifugao, has shown the inadequacy of explanations that focus on environmental marginality and less-productive agricultural system to explain the lack of interest of colonial powers to subdue highland groups. In this work, I linked the expression of Ifugao *habitus* to resist Iberian imperialism in the Philippines. This involved looking the prestige economy and ritual practices associated with rice production, which I refer to as environmental practice.

The Ifugao rice terraces served as the venue for ritual events that aimed to reinforce community solidarity. The agricultural activities and associated rituals are repeated every year, maintaining the structures that characterize Ifugao identity. More importantly, these structures facilitated resistance to an imposing military power. Contemporarily, we still see this resistance against lowland hegemony through the continued rice cultivation and Ifugao rituals amidst the power of the State, market economy, and Christianity.

Resistance has been a forceful theme in studies of colonialism (Liebmann and Murphy, 2011; Scott, 1990, 2008). This came about due to the realization that responses to conquest and colonialism are diverse, even within a particular region. Far from the dominant narratives of swift capitulation, our investigations have argued that people made decisions based on what they think would be in their benefit. In the case of the Philippines, lowland groups acceded to the might of the Spanish Empire because of the fractured nature of Philippine polities, as they judged that the Spanish Empire’s offers to consolidate political resources would provide protection against other polities.

However, this was not the case in the northern highland Philippines, where political and economic consolidation occurred outside the reaches of colonists. As opposed to the lowland response, highland peoples opted to develop large settlements, which then transformed their socio-economic and political organization. Anchored on the centrality of rice, resistance against conquest was successful because of the

political implications of the subsistence shift. In the Ifugao case, agency and *habitus* are powerful tools in understanding responses to colonialism.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.jaa.2018.05.005>.

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